#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

### (19) World Intellectual Property Organization International Bureau



### 

## (43) International Publication Date 10 July 2003 (10.07.2003)

### **PCT**

# (10) International Publication Number WO 03/056877 A 1

(51) International Patent Classification7:

- - -

- H05B 3/66 (74) Agent
- (21) International Application Number: PCT/SE02/02375
- (22) International Filing Date:

18 December 2002 (18.12.2002)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0104453-6 28 December 2001

28 December 2001 (28.12.2001) SE

- (71) Applicant (for all designated States except US): SAND-VIK AB [SE/SE]; S-811 81 Sandviken (SE).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): JOHANSSON, Lars-Göran [SE/SE]; Smultronvägen 10, S-734 31 Hallstahammar (SE).

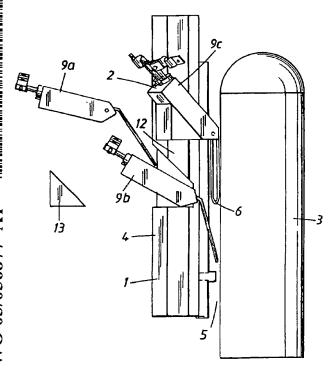
- (74) Agents: ÖRTENBLAD, Bertil et al.; Noréns Patentbyrå AB, Box 10198, S-100 55 Stockholm (SE).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MZ, NO, NZ, OM, PII, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GII, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

[Continued on next page]

(54) Title: AN ARRANGEMENT FOR FASTENING HEATING ELEMENTS TO A FURNACE



(57) Abstract: The invention relates to an arrangement for mounting electric heating elements in a furnace in which objects are intended to be heated, wherein the furnace wall includes a furnace insulation (4) comprised of high grade brick, and wherein the heating zones (6) of respective electric heating elements (2) are placed vertically and parallel with the inner surface of the furnace wall in operation. The invention is characterised in that the electric leads or conductors (7, 8) of each element (2) are mounted in a cassette (9) and extend in channels (10. 11) therein; in that the heating zone (6) of the heating element projects outwards and defines an angle with the longitudinal axis of the cassette (9); in that the furnace insulation (4) includes for each cassette a hole (12) which is larger at its outer end than at its inner end, therewith enabling the cassette (9) to be rotated in a vertical plane as the heating zone (6) of the element (2) is inserted through the hole (12) and into said operating position parallel with the furnace wall; and in that a wedge-like body (13) is provided, whose shape corresponds to the shape of the empty space created by the shape of the hole (12) and located between the hole (12) and the cassette (9) when the cassette is placed in operating position in the hole, said body (13) being placed in said empty space during operation.

WO 03/056877 A1